

Department of the Air Force, Systems Information Briefs for Members of  
Congress, 1987, Office of Legislative Liaison, Secretary of the Air Force  
**SR-71 STRATEGIC RECONNAISSANCE AIRCRAFT**

**GENERAL:** The SR-71 is a high altitude, high speed, long range reconnaissance aircraft capable of highly survivable penetration of heavily defended areas. The on board reconnaissance systems provide high volume optical, high resolution radar and electronic intelligence coverage simultaneously in a variety of sensor combinations. The SR-71 cruises at speeds in excess of Mach 3 and operates at altitudes above 80,000 feet. The aircraft was designed with a double delta wing, a long slim aerodynamic fuselage and is constructed largely of titanium to withstand the extreme temperatures and forces of high Mach flight. It is powered by two afterburning turbojet engines producing 30,000 pounds of thrust each and is manned by a crew of two, a pilot and a reconnaissance systems officer. The SR-71 currently holds several international performance records including the world's absolute and class records for speed (2194 mph) and altitude (85,126 feet) in horizontal flight.

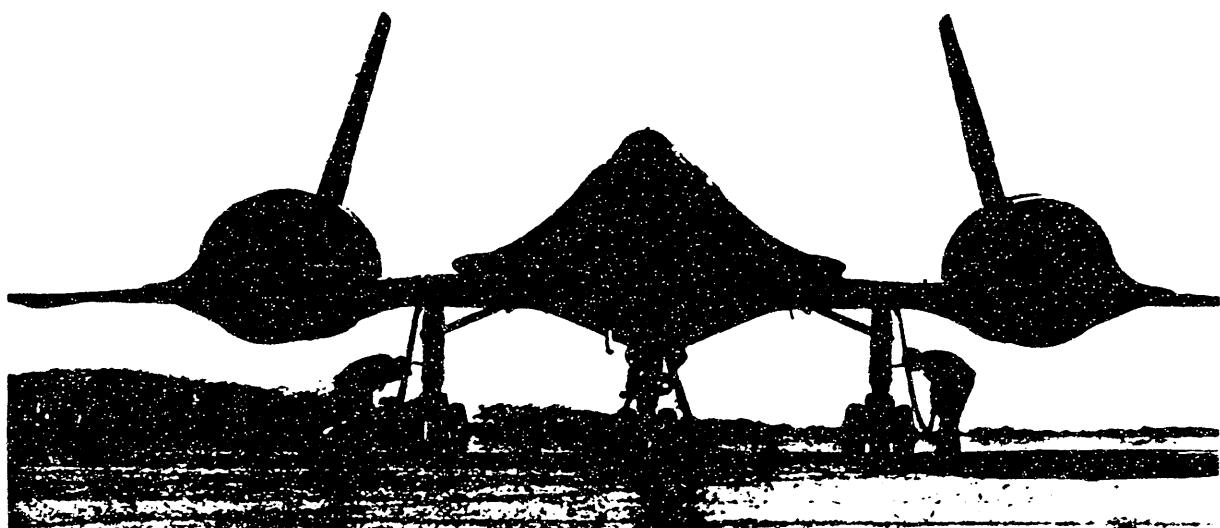
**MISSION:** The primary mission of the SR-71 is high altitude strategic reconnaissance. The aircraft is capable of surveying up to 100,000 square miles of the earth's surface in one hour at 80,000 feet. The SR-71 can accomplish a variety of reconnaissance roles ranging from battlefield surveillance in support of tactical commanders to pre-attack and post-attack strategic reconnaissance.

**PROGRAM**

**STATUS:** The SR-71 is presently operational and in service with SAC's 9th Strategic Reconnaissance Wing, Beale AFB, California. Various modifications and updates are performed on the aircraft and its surveillance systems to assure mission performance.

**FUNDING:** N/A

**CONTRACTORS:** Weapons Systems: Lockheed Aircraft Corporation/Burbank, CA  
Engines: Pratt & Whitney/East Hartford, CT



TR-1.

**GENERAL:** The TR-1, a copy of the U-2R, is a single engine, single place, fixed wing aircraft that supports NATO theater intelligence requirements. The TR-1 operates above 60,000 feet at 430 mph, and has a range in excess of 3,000 miles. The primary feature of the TR-1 is its modular payload packaging which is tailored to satisfy specific mission objectives. This concept maximizes payload space and weight allowances for a wide variety of radar imagery and electronics collection missions.

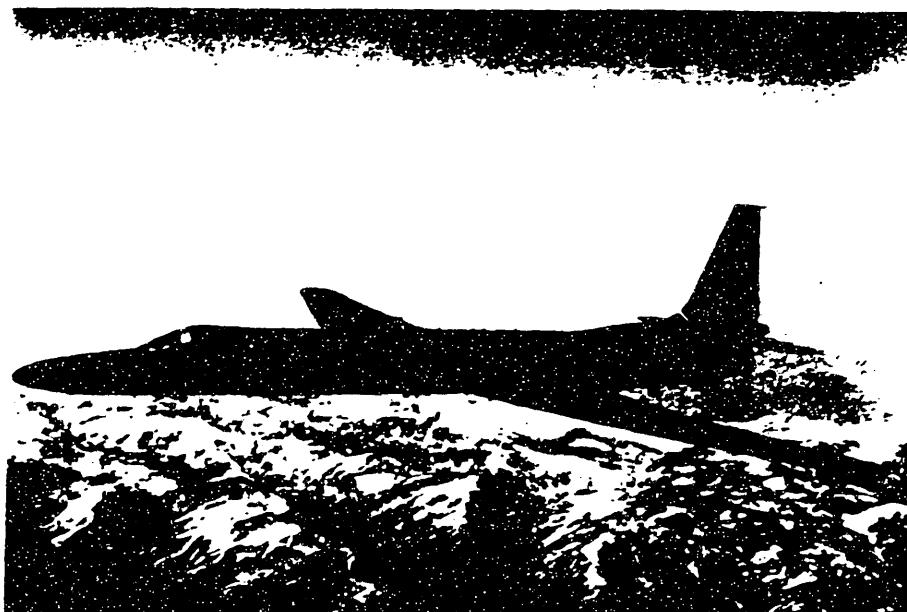
**MISSION:** The primary mission of the TR-1 is high altitude, long endurance tactical reconnaissance. The TR-1 supports the NATO Central European Theater commanders by providing tactical intelligence with an advanced synthetic aperture radar system in combination with other electronics sensors. The TR-1 provides continuous day and night, all weather surveillance in direct support of U.S. and allied ground and air forces during peace, crisis, or war.

**PROGRAM**

**STATUS:** The TR-1 is in service with the 17th Reconnaissance Wing, RAF Alconbury, UK. Various modifications and updates are performed on the aircraft and its surveillance systems to assure continued mission performance.

**FUNDING:** N/A, procurement complete in FY 87.

Contractors: Airframe: Lockheed Aircraft Corp/Burbank, CA  
Engines: Pratt & Whitney/East Hartford, CT



## RF-4C (PHANTOM II) TACTICAL RECONNAISSANCE AIRCRAFT

**GENERAL:** The RF-4C, an unarmed version of the F-4C fighter, is the Air Force's only operational tactical penetrating reconnaissance vehicle. Operated by a two man crew, it normally carries optical cameras and an infrared sensor. Selected aircraft are equipped with a Tactical Electronic Reconnaissance (TEREC) sensor capable of data link transmission to ground facilities. Some aircraft are equipped with an advanced digital avionics system, ARN-101, which is integrated with TEREC and used with the PAVE TACK infrared pod for improved target acquisition and navigation during weather and night operations. There is a very limited capability for long range oblique photography (LOROP).

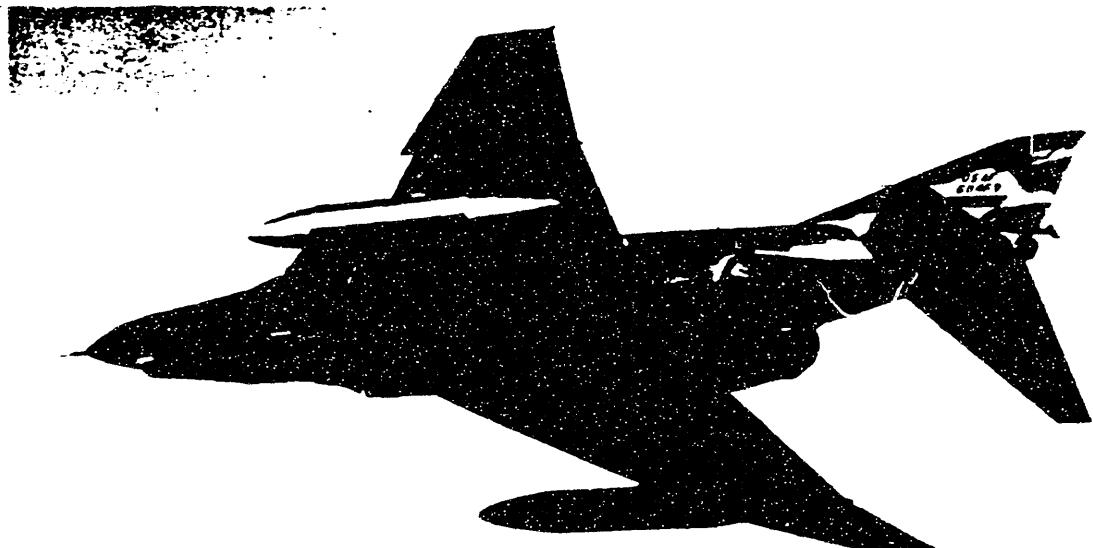
**MISSION:** The RF-4C was designed to collect tactical intelligence by penetrating through enemy defenses during day or night and below the weather. Those equipped with TEREC and LOROP are capable of standoff battlefield surveillance, and TEREC allows identification and location of hostile electronic emitters. Rocket equipped aircraft for marking targets provide Strike Control and Reconnaissance (SCAR) capabilities for interdiction forces. PAVE TACK equipped RF-4C aircraft are used primarily for night target acquisition and can laser designate for interdiction forces with laser guided munitions.

### **PROGRAM**

**STATUS:** Presently, there are 11 operational squadrons with 5 in the active duty Air Force and 6 in the Air National Guard. The RF-4C is undergoing an extensive modification process aimed at improving its mission capability, enhancing reliability and maintainability, and lowering logistics costs. The last RF-4C was produced in 1975, and is expected to continue to perform the Air Force's tactical reconnaissance mission until the year 2000. The RF-4C operates in TAC, USAFE, PACAF, and the ANG.

**FUNDING (\$ in Millions):** N/A

**CONTRACTORS:** Airframe: McDonnell Douglas/St. Louis, MO  
Propulsion: General Electric/Everdale, OH



## ADVANCED TACTICAL AIR RECONNAISSANCE SYSTEM (ATARS)

**GENERAL:** ATARS is made up of two programs, the Tactical Air Reconnaissance System (TARS) and the Unmanned Air Reconnaissance System (UARS). In the TARS program, the Air Force is developing an electro-optical (EO) sensor suite that consists of an EO sensor, a recorder, a data link, and a reconnaissance management system. In addition, a tactical ground exploitation system using modular technology from the Joint Services Imagery Processing System (JSIPS) will be developed. ATARS is designed to shorten the time it takes to get imagery intelligence (IMINT) to the user by data linking an EO image direct to the JSIPS ground station, and to eliminate the support requirements associated with wet film developing. To support a Memorandum of Agreement with the Navy, the EO sensor suite is being developed for use on Air Force and Navy manned and unmanned tactical reconnaissance vehicles. In the UARS program the Navy is developing a mid-range, medium subsonic, low to medium altitude tactical unmanned reconnaissance vehicle to satisfy Air Force and Navy requirements. The UARS will complement the RF-4 by helping to reduce its wartime attrition and also release it for sorties that require the flexibility and manned aircraft provides.

**MISSION:** In wartime TARS will gather IMINT and shorten the reconnaissance cycle that starts when intelligence is requested and ends when intelligence is delivered. In peacetime, it significantly reduces the operation and support costs of the photo processing facility. In wartime, UARS will be used to gather IMINT of heavily defended fixed targets or prior to successful suppression of enemy air defenses. In peacetime it can be used when manned overflight is inadvisable.

### **PROGRAM**

**STATUS:** TARS - RFP to be released during 2Q FY 87.

UARS - Bids being evaluated, two contractors to be selected in May 87 to proceed to a competitive fly-off

**FUNDING (\$ in Millions):** N/A

**CONTRACTORS:** TARS-TBD  
UARS-TBD